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APPLICATION NO	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO
09-788,626	02/13/2001	Andrew J. Flint	200125.401	4380

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SEED INTELLECTUAL PROPERTY LAW GROUP PLLC
701 FIFTH AVE
SUITE 6300
SEATTLE, WA 98104-7092

EXAMINER

PAK, YONG D

ART UNIT	PAPER NUMBER
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1652

DATE MAILED: 03/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/788,626

Applicant(s)

FLINT ET AL.

Examiner

Yong Pak

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 09 December 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-5 and 8-33 is/are pending in the application.
- 4a) Of the above claim(s) 14 and 17-33 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-5,8-13,15 and 16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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DETAILED ACTION

The amendment filed December 9, 2002, amending the specification, canceling claims 2, 6, and 7 and amending claims 1 and 8, has been entered.

Claims 1, 3-5 and 8-33 are pending.

Rejections and/or objections not reiterated from previous Office action are hereby withdrawn.

Election/Restrictions

Claims 17-33 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Claim 14 is withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 12.

Claim Objections

Claims 9-10, 13 and 16 are objected for being drawn to non-elected species.

Response to Arguments

Applicant's arguments filed December 9, 2002 have been fully considered but they are not persuasive.

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Claim Rejections - 35 USC § 102

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1 and 3-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Tonks et al.

Applicants argue that the reference of Tonks et al. (WO 98/04712) fails to anticipate each and every limitation of the instant claims because the reference does not compare a fluorescence energy signal that is a fluorescence polarization signal. The examiner disagrees.

Tonks et al. (WO 98/04712) teach a method of identifying an agent, which alters the interaction between a substrate-trapping mutant of a protein tyrosine phosphatase (PTP) and a substrate capable of generating a fluorescence energy signal (pages 6-7 and 16-17). Tonks et al. teach that to facilitate the determination of the presence of the protein/PTP complex, labeled phosphorylated substrates can be used, such as a

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fluorescein or a rhodamine and teaches that enzymatic activity assays are well known in the art, citing U.S. Patent No. 5,352,660 (page 13 and 16-17). In the state of the art, these chemicals are used in fluorescence techniques, such as fluorescence polarization (FP) and fluorescence resonance energy transfer (FRET) (U.S. Patent 6,203,994, Column 1 through Column 2). The technique required in FP assays are very well known in the art. Therefore, the teachings of Tonks et al. anticipates claims 1 and 3-5.

Claims 1 and 3-5 are rejected under 35 U.S.C. 102(e) as being anticipated by Tonks et al.

Applicants argue that the reference of Tonks et al. (5,912,138) fails to anticipate each and every limitation of the instant claims because the reference does not compare a fluorescence energy signal that is a fluorescence polarization signal. The examiner disagrees.

Tonks et al. (U.S. Patent No. 5,912,138) teach a method of identifying an agent, which alters the interaction between a substrate-trapping mutant of a protein tyrosine phosphatase (PTP) and a substrate capable of generating a fluorescence energy signal (Column 3, line 45 through Column 4, line 9 and Column 9, lines 12-50). Tonks et al. teach that to facilitate the determination of the presence of the protein/PTP complex, labeled phosphorylated substrates can be used, such as a fluorescein or a rhodamine and teaches that enzymatic activity assays are well known in the art, citing U.S. Patent No. 5,352,660 (Column 7, lines 7-28 and Column 9, lines 12-50). In the state of the art, these chemicals are used in fluorescence techniques, such as fluorescence polarization

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(FP) and fluorescence resonance energy transfer (FRET) (U.S. Patent 6,203,994, Column 1 through Column 2). The technique required in FP assays are very well known in the art. Therefore, the teachings of Tonks et al. anticipates claims 1 and 3-5.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1 and 8-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tonks et al. in view of Jia et al.

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Applicants argue that the combined reference of Tonks et al. and Jia et al. fail to teach or suggest the subject matter of the instant claims.

Applicants argue that the reference of Tonks et al. (5,912,138) fails to anticipate each and every limitation of the instant claims because the reference does not compare a fluorescence energy signal that is a fluorescence polarization signal. The examiner disagrees, as discussed above.

Applicants also argue that Jia et al. fail to teach what Tonks et al. do not because one of ordinary skill in the art would not have been motivated to substitute a Phe at position 46 of PTP1B. Applicants argue that one of ordinary skill in the art would not have expected that such substitution would not affect the catalytic activity of PTP1B and thus would not provide a PTP1B substrate trapping mutant. The examiner disagrees.

Jia et al. (form PTO 1449) teach that Tyr corresponding to position 46 of PTP1B is one of a few residues, which are invariant within the PTP family, much like the invariant Asp residue. Jia et al. teach that Tyr-46 forms interactions with the main-chain atoms, and the aromatic ring of the substrate of PTP and that a "hydrogen bond between the OH group of Tyr-46 and the side chain of Ser216 stabilized the conformation of the Tyr-46 and its interaction with the substrate(page 1755). Jia et al. also teach that in a bacterial PTP, Phe is present instead of Tyr-46, suggesting that the mechanism of PTP substrate recognition maybe conserved.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the claimed invention was made to use the method of Tonks et al. with a PTP-

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1B wherein one of the residues of the recognition site, Tyr-46, is mutated with a conservative substitution, a Phe residue. The motivation of using such a mutant PTP1B is to trap the substrate as described by Tonks et al. to readily observed the complex formed in the presence of an agent that alters the interaction between the PTP and the substrate. One of ordinary skill in the art would have had a reasonable expectation of success since mutation in the recognition site or the signature motif have successfully led to a PTP1B substrate trap.

No claims are allowed.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yong Pak whose telephone number is 703-308-9363. The examiner can normally be reached on 8:00 A.M. to 4:30 P.M weekdays.

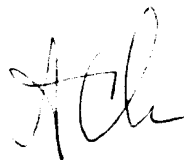
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ponnathapu Achutamurthy can be reached on 703-308-3804. The fax phone numbers for the organization where this application or proceeding is assigned

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are 703-872-9306 for regular communications and 703-872-9307 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0196.

Yong Pak
Patent Examiner

A handwritten signature in black ink, appearing to read 'Yong Pak', is located to the right of the printed name.

March 7, 2003